REMARKS

Claims 16-18 and 22-37 are active in the case. Reconsideration is respectfully requested.

The present invention relates to a glazing that has electrically controllable optical and/or energy properties.

Invention

The present invention, as set forth in Claim 16, is directed to a glazing comprising (a) at least one electrochromic system having variable optical and/or energy properties, (b) at least one coating which adjusts the optical appearance conferred on the glazing by the system, said at least one coating having antireflection properties in the visible light region. The coating has antireflection properties and is deposited on at least one of the external faces of the glazing and comprises a stack of at least two superposed thin layers having alternately high and low reflective indices, whose average refractive index ranges between 1.6 and 1.9, and is an SnO_2/SiO_2 or $SnO_2/SiO_2/SnO_2$ stack, or a graded-refractive-index layer. The glazing has a layer (c) of at least one coating which attenuates/modifies the color of the glazing in reflection, and acts to lower C* saturation values in the (L, a*, b*) colorimetry system of the glazing in reflection.

When both the antireflection and attenuating/modifying coatings are present, superior results are obtained, which are unobtainable without both layers, or without the antireflection coating. This superiority is demonstrated in the comparative data of record, and particularly, in Examples 3 and 4, described in the specification beginning at page 18, line 37. The device of Example 3 has an antireflection coating and is within the scope of the present invention while the device of Example 4 does not have an antireflection coating. In particular Table 1

shows that for the bleached state at + 1.2 volts, the device of Example 3 of the invention shows a light transmission T_L of almost 80 %, while the device of Example 4 (no antireflection coating) shows a light transmission T_L of only 72 %.

With respect to the solar factor, page 22 of the text indicates that for the device of Example 3 the solar factor of the colored state (- 1.6 V) is 33 % while the solar factor of the bleached state (+ 1.2 V) is 73 %. For the device of Example 4 (no antireflection coating) the solar factor of the colored state (- 1.6 V) is 32 % while the solar factor of the bleached state (+ 1.2 V) is 67 %. These data represent a substantial achievement for an electrochromic glazing, because the electrochromic layers, even in the bleached state, do remain a little bit absorbing. Accordingly, the anti-reflecting stack of thin layers acts in synergy with the electrochromic system, thermally **and** optically, both in the colored and uncolored state of the electrochromic system, which combination of both thermal and optical effects could not have been predicted.

Double Patenting Rejection

The rejection of Claims 18 and 34 based on obviousness type double patenting over Claims 3-21 of Boire et al, U. S. Patent 6,746,775 in view of applicants' disclosure. This ground of rejection is believed obviated by the filing of the attached terminal disclaimer. Withdrawal of the rejection is respectfully requested.

Prior Art Rejection

Claims 16-17, 22, 23, 29-33 and 36 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Demiryont et al, U.S. Patent 6,040,939. This ground of rejection is respectfully traversed.

Hashimoto et al, previously made of record in the case, discloses an electrochromic device that in an embodiment as discussed at the top of column 3 has an anti-reflection coating that is a monolayer of a dielectric material such as Al_2O_3, TiO_2, MgF_2, or the like or is a plurality of such monolayers. However, there is absolutely no teaching or suggestion of preparing a antireflection coating as specified in the present invention which specifically is a stack of at least two superposed thin layers having alternately high and low reflective indices, whose average refractive index ranges between 1.6 and 1.9, and is an SnO_2/SiO_2 or $SnO_2/SiO_2/SnO_2$ stack, or is a graded-refractive-index layer. Accordingly, Hashimoto et al does not obviate the invention as claimed.

The Bright patent discloses antireflective coatings for electrochromic devices that is a stack of layers comprising at least two inorganic layers, one having a low index of refraction and the other having a high index of refraction. The antireflective layers are described as a stack of layers in column 5, the first layer being of a high index of refraction material such as one of the oxides mentioned in lines 34-40 of the patent. SnO_2 is described as one such oxide. Low refractive index oxide materials are mentioned in column 6, lines 1-16 of the patent which have an index of refraction of 1.25 to 1.7. Among the oxides mentioned are SiO_2. However, there is no teaching or suggestion in the patent of one of the two specific oxide stacks described in the present claims, especially in the context of at least two superposed layers whose average index of refraction ranges from 1.6 to 1.9. None of the examples of the patent describe an antireflective stack of layers as set forth in present claim 16. Accordingly, Hashimoto et al combined with Bright et al does not suggest the present invention.

Finally, the Demiryont et al patent discloses an anti-solar, low-emissivity functioning multi-layer coating on a transparent substrate, wherein the substrate may be an electrochromic device (column 6, line 18), which multi-layer coating, as shown in Fig. 2 and disclosed at column 7, line 36 ff, may contain a color control layer between the substrate and

a first anti-reflecting coating. Demiryont et al discloses that the color control layer is preferably formed of silicon or tungsten metal, and its purpose is to achieve both enhanced uniformity and desired hue or color of the coated article, wherein uniformity of color refers to reduction in blotchiness or the like which may otherwise appear in a coated article. It, however, contains no teaching or suggestion of the SiO_2/SnO_2 layers of the coating of the present invention. Clearly, the combined prior art dose not suggest the invention and withdrawal of the rejection is respectfully requested.

Claims 24 and 25 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Demiryont et al, U.S. Patent 6,040,939 and further in view of Chartier et al. This ground of rejection is respectfully traversed.

Claims 24 and 25 are directed to features of the present application upon which patentability does not depend. Further, because the primary references, as seen above, do not teach or suggest the antireflection stack of layers of the present claims, the cited Chartier et al patent does not lead the skilled artisan to the present device, as embodied by Claims 24 and 25, since the primary patents do not lead the skilled artisan to the device of present Claim 16. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 26-28 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Demiryont et al, U.S. Patent 6,040,939 and further in view of Chopin et al. This ground of rejection is respectfully traversed.

Claims 26-28 are directed to an embodiment of the invention upon which patentability does not depend. Accordingly, because Claims 26-28 depend upon a device as presently claimed that is not shown or suggested by the primary patents, it is believed that the

dependent claims are patentable over the applied prior art. Withdrawal of the rejection is respectfully requested.

Claims 35-37 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Demiryont et al, U.S. Patent 6,040,939 and further in view of applicants' disclosure. This ground of rejection is respectfully traversed.

Claims 35-37 are directed to embodiment of the invention upon which patentability does not depend. Accordingly, because Claims 35-37 depend upon a device as presently claimed that is not shown or suggested by the primary patents, it is believed that the dependent claims are patentable over the applied prior art and applicants' admissions. Withdrawal of the rejection is respectfully requested.

Claims 16-17, 22, 23, 29-33 and 36 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Choi et al, U.S. Patent 6,379,788. This ground of rejection is respectfully traversed.

Applicants retain their position as stated with respect to the Hashimoto et al and Bright et al patents. On the other hand, the Choi et al patent describes an antireflection layer that is formed of a polymer film. Accordingly, event though an embodiment of the invention is to provide the electrochromic device with a polymeric layer, because the primary references do not lead the skilled artisan to the antireflection layer stack of the present invention, the prior art does not suggest an electrochromic device that contains the contains the specific oxide layer sequence of the present claims which is further combined with a polymeric film. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 24 and 25 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of

Choi et al and further in view of Chartier et al. This ground of rejection is respectfully traversed.

Claims 24 and 25 are directed to features of the present application upon which patentability does not depend. Further, because the primary references, as seen above, do not teach or suggest the antireflection stack of layers of the present claims, the cited Chartier et al patent does not lead the skilled artisan to the present device, as embodied by Claims 24 and 25, since the primary Hashimoto et al and Bright et al patents do not lead the skilled artisan to the device of present Claim 16. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 26-28 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Choi et al, and further in view of Chopin et al. This ground of rejection is respectfully traversed.

Claims 26-28 are directed to an embodiment of the invention upon which patentability does not depend. Accordingly, because Claims 26-28 depend upon a device as presently claimed having a specific oxide layer stack as an antireflection coating that is not shown or suggested by the primary patents, it is believed that the dependent claims are patentable over the applied prior art. Withdrawal of the rejection is respectfully requested.

Claims 35-37 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Choi et al and further in view of applicants' disclosure. This ground of rejection is respectfully traversed.

Claims 35-37 are directed to embodiment of the invention upon which patentability does not depend. Accordingly, because Claims 35-37 depend upon a device as presently claimed that is not shown or suggested by the primary patents, it is believed that the dependent claims are patentable over the applied prior art and applicants' admissions. Withdrawal of the rejection is respectfully requested.

Claims 16, 17, 22, 23, 29-33 and 36 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Allemand et al, U.S. Patent 5,780,160. This ground of rejection is respectfully traversed.

Although the Allemand et al patent describes a device that may have an antireflection coating thereon, nevertheless, the combination of the patent with Hashimoto et al does not lead the skilled artisan to the present invention because there is no teaching or suggestion of the present oxide stack as an antireflection coating on a substrate. Therefore, Allemand et al does not add anything to the teachings of Hashimoto et al. Withdrawal of the rejection is respectfully requested.

Claims 24 and 25 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Allemand et al and further in view of Chartier et al. This ground of rejection is respectfully traversed.

Claims 24 and 25 are directed to features of the present application upon which patentability does not depend. Further, because the primary references, as seen above, do not teach or suggest the antireflection stack of layers of the present claims, the cited Chartier et al patent does not lead the skilled artisan to the present device, as embodied by Claims 24 and 25, since the primary patents do not lead the skilled artisan to the device of present Claim 16. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 26-28 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Allemand et al and further in view of Chopin et al. This ground of rejection is respectfully traversed.

Claims 26-28 are directed to an embodiment of the invention upon which patentability does not depend. Accordingly, because Claims 26-28 depend upon a device as presently

claimed that is not shown or suggested by the primary patents, it is believed that the dependent claims are patentable over the applied prior art. Withdrawal of the rejection is respectfully requested.

Claims 35-37 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Allemand et al and further in view of applicants' disclosure. This ground of rejection is respectfully traversed.

Claims 35-37 are directed to embodiment of the invention upon which patentability does not depend. Accordingly, because Claims 35-37 depend upon a device as presently claimed that is not shown or suggested by the primary patents, it is believed that the dependent claims are patentable over the applied prior art and applicants' admissions. Withdrawal of the rejection is respectfully requested.

Claims 16, 17, 22, 23, 29-33 and 36 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Byker et al, U.S. Patent 5,805,330. This ground of rejection is respectfully traversed.

Byker et al, as stated previously, discloses an electro-optic window that incorporates a discrete photovoltaic device, which may contain an optional layer, such as a layer of, *inter alia*, an anti-reflection and/or a color suppression material or materials deposited between a transparent conductive material **16** and front glass rear face **12b** and/or between transparent conductive material **18** and rear glass front face **14a** to suppress or filter out any unwanted portion of the electromagnetic spectrum (column 5, lines 61-67). However, there is no teaching or suggestion of the oxide layer combinations of the present claims to produce specific antireflection layer stacks in any of the cited references. How then is the present invention, as claimed, obvious over the cited and applied patent? Further, what discussion in

Byker et al leads the skilled artisan to the present invention when the patent is combined with either Hashimoto et al or Bright et al? Applicants maintain that the cited and combined patents do not suggest the invention as claimed and withdrawal of the rejection is respectfully requested.

Claims 24 and 25 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Byker et al and further in view of Chartier et al. This ground of rejection is respectfully traversed.

Claims 24 and 25 are directed to features of the present application upon which patentability does not depend. Further, because the primary references, as seen above, do not teach or suggest the antireflection stack of layers of the present claims, the cited Chartier et al patent does not lead the skilled artisan to the present device, as embodied by Claims 24 and 25, since the primary patents do not lead the skilled artisan to the device of present Claim 16. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 26-28 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Byker et al and further in view of Chopin et al. This ground of rejection is respectfully traversed.

Claims 26-28 are directed to an embodiment of the invention upon which patentability does not depend. Accordingly, because Claims 26-28 depend upon a device as presently claimed that is not shown or suggested by the primary patents, it is believed that the dependent claims are patentable over the applied prior art. Withdrawal of the rejection is respectfully requested.

Claims 35-37 stand rejected based on 35 USC 103(a) as obvious over U.S. 5,777,779 (Hashimoto et al) in view of Bright et al, U.S. Patent 5,744,227 and in view of Byker et al

and further in view of applicants' disclosure. This ground of rejection is respectfully traversed.

Claims 35-37 are directed to embodiment of the invention upon which patentability does not depend. Accordingly, because Claims 35-37 depend upon a device as presently claimed that is not shown or suggested by the primary patents, it is believed that the dependent claims are patentable over the applied prior art and applicants' admissions. Withdrawal of the rejection is respectfully requested.

This application is now believed to be in condition for allowance. Early notice to this effect is respectfully requested.

Respectfully submitted,

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